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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,554	01/02/2004	Tzu-Ming Lin	LIE 179	8775

23995   7590   03/15/2007
RABIN & Berdo, PC
1101 14TH STREET, NW
SUITE 500
WASHINGTON, DC 20005

EXAMINER
PEREZ, JULIO R

ART UNIT	PAPER NUMBER
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/749,554	LIN ET AL.
	Examiner	Art Unit	
	Julio R. Perez	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 January 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-28_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _18-21 and 26-28_ is/are allowed.

6)☒ Claim(s) _1-12,15-17 and 22-25_ is/are rejected.

7)☒ Claim(s) _13 and 14_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _02 January 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _01/02/04_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 25 is objected to because of the following informalities: On line 3,

"informing" should be "informing". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3, 5-5-12, 15-17, 22-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lee (US 20040170149A1) in view of Nakabayashi (US

20040038685A1).

        Regarding claims 1, 22, Lee teaches an apparatus for controlling multi-mode

radio access comprising (Figures 2-3); a physical layer (par. 7, lines 15-16); a radio

system layer connecting with the physical layer for performing medium access control

(par. 7, teach a control entity, which is associated with the physical layer, commanded

by the upper layer for setting communication channels, which reads on the physical

layer for access control); and a radio adaptation layer (par. 17, lines 3-4), which

connects with the radio system layer, at least comprising: a configuration controller used

to establish or control at least a radio link according to a signal packet so as to perform

seamless handoff within different radio systems and set corresponding traffic control

parameters (par. 26, lines 6-13, pars. 27-28, par. 30, lines 7-12, teach establishment of communication in order to perform a handoff based on the system information that includes the traffic via multiple-to-multiple communication, which reads on performing handoff within different radio systems, but is silent on traffic controller used to transmit a data packet according to the traffic control parameters and requirements of quality of service (QoS) of the data packet.

Further in regard to claim 22, Lee teaches handoff method for controlling multi-mode radio access comprising: determining if handoff is necessary according to a status of a present radio link (par. 7, par. 26, lines 6-13, pars. 27-28, par. 30, lines 7-12); switching to a new radio link (pars. 27-28, par. 30); releasing an old radio link (pars. 27-28, par. 30); translating QoS attributes for mapping parameters; and setting parameters of a traffic controller to fit the new radio link (par. 26, lines 6-13, pars. 27-28, par. 30, lines 7-12).

Nakabayashi teaches transmitting data via access controller based on the quality of the data and RF signals quality (control parameters) (pars. 50, 52-55).

It would have been obvious to one skilled I the art at the time of the invention to modify Lee, such that the control system transmits packet data in accordance to traffic parameters, to provide control operation in which the transmission data rate are classified in accordance to traffic type and transferred taking the QoS into consideration.

Regarding claim 2, the combination of Lee and Nakabayashi teaches claim 1, further comprising network layer for passing the data packet and signal packet to the radio adaptation layer, the network layer using an Internet protocol (IP) so as to make

the apparatus able to roam within the different radio systems and support QoS

mechanisms (Lee, pars. 15, 26-28, teach IP network layer with handoff based on quality

control).

Regarding claim 3, the combination of Lee and Nakabayashi teaches claim 1,

further wherein the IP is a mobile IP (Lee, par. 15, lines 1-4, teach IP of mobile devices,

which read on "mobile IP").

Regarding claims 5, 6, the combination of Lee and Nakabayashi claim 1, further

the physical layer comprises a first reconfigurable transceiver and a second

reconfigurable transceiver for establishing radio links within the different radio systems

(Lee, Figure 3, pars. 26-28, 30).

Regarding claim 7, the combination of Lee and Nakabayashi claim 1, further

wherein the radio system layer comprises at least a media access controller

corresponding to a radio module (Lee, Figure 3, pars. 15, 26-28).

Regarding claims 8, 17, the combination of Lee and Nakabayashi claim 1, further

wherein the media access controller is a wireless local area network (WLAN) media a

3G protocol (Lee, par. 4).

Regarding claim 9, the combination of Lee and Nakabayashi claim 1, further

wherein the radio adaptation layer further comprises a network control interface to

recognize a format of a packet sent from the network layer (Lee, pars. 27-28).

Regarding claim 10, the combination of Lee and Nakabayashi claim 1, further a

call admission control for managing present wireless network resources of the

apparatus (Lee, par. 26, lines 6-13, pars. 27-28, par. 30); and a radio system selector

connecting with the call admission control for determining if it is necessary to perform

the seamless handoff according to a status of a radio link (Lee, par. 26, lines 6-13, pars.

27-28, par. 30, lines 7-12).

Regarding claim 11, the combination of Lee and Nakabayashi claim 1, with

further a service manager connecting with the call admission control for setting the

traffic control parameters, and establishing or correcting the status of the radio link (Lee,

par. 26, lines 6-13, pars. 27-28, par. 30); a radio monitor connecting with the call

admission control and the radio system selector for monitoring the status of the radio

link; and a radio module controller connecting with the radio system selector for loading

a radio module program to a radio module (Lee, par. 26, lines 6-13, pars. 27-28, par.

30, lines 7-12).

Regarding claim 12, the combination of Lee and Nakabayashi claim 1, further

wherein a configuration control interface connecting with the service manager, the radio

monitor and the radio module controller for providing an unified control interface

between the configuration controller and the radio module (Lee, Figure 3, pars. 27-28).

Regarding claim 15, the combination of Lee and Nakabayashi claim 1, further

wherein radio module connecting with the configuration controller and the traffic

controller for converting the data packet to a specific radio system format before

sending the data packet to the radio link (Figure 3-4, Lee, par. 26, lines 6-13, pars. 27-

28, par. 30, lines 7-12), providing the radio link with QoS in an one-to-one or one-to-

multiple manner and performing a monitoring of management and power saving to

make the configuration controller able to modify the radio module (Lee, par. 26, lines 6-13, pars. 27-28, par. 30, lines 7-12).

Regarding claim 16, the combination of Lee and Nakabayashi claim 1, further wherein the radio module comprises at least a radio module corresponding to the radio systems (Lee, par. 26, lines 6-13, pars. 27-28).

Regarding claim 23, the combination of Lee and Nakabayashi claim 1, further wherein reporting the status of the present radio link (Lee, pars. 27-28); determining if a quality of the present radio link degrades (Lee, par. 26, lines 6-13, pars. 27-28, par. 30, lines 7-12); obtaining an information of a radios system and determining if the handoff is necessary; and modifying a setting of a radio module to improve the quality of the present radio link if the handoff isn't necessary (par. 26, lines 6-13, pars. 27-28, par. 30, lines 7-12).

Regarding claim 24, the combination of Lee and Nakabayashi claim 1, further comprising a radio nodule program and setting its parameters (Lee, Figure 3, pars. 27-28); establishing the new radio link by employing the radio module program; and determining if the new radio link is suitable (Lee, par. 26, lines 6-13, pars. 27-28, par. 30).

Regarding claim 25, the combination of Lee and Nakabayashi claim 1, further informing an upper layer of a variation of the new radio link (Figure 4, pars. 27-28).

4.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Nakabayashi further in view of Immonen et al (US007006472B1).

Regarding claim 4, the combination of Lee and Nakabayashi teaches claim 1, but

is silent on wherein the QoS mechanisms comprise an IntServ or a DiffServ

mechanism.

Immonen teaches managing QoS requests for reserving connection from an AP

wherein the WFMP receives Diffser packet.

It would have been obvious to one skilled I the art at the time of the invention to

modify Lee, such that the control system transmits packet data in accordance to traffic

parameters, to include mechanisms with DiffServ to differentiate service packets in the

flow mapping.

Allowable Subject Matter

5.   Claims 13, 14, are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims. The following is a statement of reasons for

the indication of allowable subject matter: The cited prior art teaches establishment of

communication in order to perform a handoff based on the system information that

includes the traffic via multiple-to-multiple communication. On the other hand, the

applicant's application teaches a traffic controller used to control the traffic of the data

packets to fulfill the QoS requirements with classifier, a conditioner, a scheduler and a

traffic control interface, wherein the classifier will classify the data packets sent from the

network control interface further wherein, If the data packets are IntServ packets, the

classifier will classify them in accord with their radio links, in addition, after classified,

the packets will be sent to the corresponding queues, respectively, therein, the

conditioner will perform traffic control; Moreover, the conditioner is used to manage the

queues of the packets and to meter for measuring according to the data attributes and

influencing parameters of other components, also a dropper for dropping packets

according the requirements of QoS, and a shaper for retarding the transmission of

packets according the requirements of QoS. And schedulers are used to schedule the

queues of different classifications according to the parameters set by the service

manager and pass the packets to the radio module for transmission. These limitations,

have not been disclosed, taught, or made obvious over the prior art of record.

6.   Claims 18-21, 26-28, are allowed. The following is an examiner's statement of

reasons for allowance: The cited prior art teaches establishment of communication in

order to perform a handoff based on the system information that includes the traffic via

multiple-to-multiple communication. On the other hand, the applicant's application

teaches a packet-transmitting method for controlling multi-mode radio access for

recognizing a format of a received packet, wherein determining if the received packet is

a signaling packet, therein passing the received packet to a configuration controller if

the received packet is the signaling packet and establishing a corresponding radio link

according to parameters of the signaling packet and present network resources, and

setting corresponding parameters of a traffic controller to fit predetermined requirements

of QoS; and passing the received packet to the traffic controller if the received packet

isn't the signaling packet but a data packet and controlling a quality of a connection

according to predetermined parameters of traffic control and then sending out the data

packet orderly, and further abstracting a traffic parameter from the signal packet and

translating QoS attributes and checking available resource of radio link for loading a usable radio module program to establish the corresponding radio link if a connection is admitted and for setting the corresponding parameters of the traffic controller after the radio link is established completely, and converting the signaling packet to a specific radio system format and then sending the signaling packet out. Further, classifying the data packet and delivering the classified data packet to a corresponding queue; measuring, dropping or retarding the data packet; scheduling a plurality of queues; and converting the data packet to a specific radio system format for transmitting in a corresponding radio system; and sending the data packet out. In addition, wherein passing the message for releasing the radio link to an end of a network releasing the radio link by a radio module if a number of other connections existing in the radio link is zero and informing a call admission control that the radio link is released; and informing the call admission control that the connection is terminated if the number of other connections existing in the radio link is not zero.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R. Perez whose telephone number is (571) 272-7846. The examiner can normally be reached on 10:30 - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William H. Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Julio R Perez
Examiner
Art Unit 2617

3/9/07

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600